RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 14:34:09

INPUT SET: S8602.raw

This Raw Listing contains the General Information Section and up to the first 5 pages.

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1
                                              SEQUENCE LISTING
        2
                                                                 ENTERED
        3
                   General Information:
            (1)
        5
                 (i) APPLICANT: Wiley, Steven R.
              Goodwin, Raymond G.
        7
                (ii) TITLE OF INVENTION: Cytokine that Induces Apoptosis
        9
       10
               (iii) NUMBER OF SEQUENCES: 9
       11
       12
                (iv) CORRESPONDENCE ADDRESS:
       13
              (A) ADDRESSEE: Kathryn A. Anderson, Immunex Corporation
              (B) STREET: 51 University Street
       14
       15
              (C) CITY: Seattle
       16
              (D) STATE: WA
       17
              (E) COUNTRY: USA
       18
              (F) ZIP: 98101
       19
       20
                 (V) COMPUTER READABLE FORM:
       21
              (A) MEDIUM TYPE: Floppy disk
       22
              (B) COMPUTER: Apple Macintosh
       23
              (C) OPERATING SYSTEM: Apple 7.1
       24
              (D) SOFTWARE: Microsoft Word, Version 5.1a
       25
       26
                (vi) CURRENT APPLICATION DATA:
-->
       27
              (A) APPLICATION NUMBER: US -- to be assigned--
       28
              (B) FILING DATE: 01-NOV-1995
       29
              (C) CLASSIFICATION:
       30
       31
                (vii) PRIOR APPLICATION DATA:
       32
              (A) APPLICATION NUMBER: US 08/496,632
              (B) FILING DATE: 29-JUN-1995
       33
       34
              (C) CLASSIFICATION:
       35
       36
              (Viii) ATTORNEY/AGENT INFORMATION:
       37
              (A) NAME: Anderson, Kathryn A.
       38
              (B) REGISTRATION NUMBER: 32,172
       39
              (C) REFERENCE/DOCKET NUMBER: 2835-A
       40
       41
                (ix) TELECOMMUNICATION INFORMATION:
       42
              (A) TELEPHONE: (206) 587-0430
       43
              (B) TELEFAX: (206) 233-0644
       44
              (C) TELEX: 756822
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RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 14:34:13

| 47 | (2) | INF | ORMA' | TION | FOR | SEQ | ID 1 | NO:1 | : | | | | | | | | |
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| 57 | 1 | (111 |) HY | POTH | ETIC | AL: 1 | NO | | | | | | | | | | |
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| 59 | | (iv |) AN' | ri-si | ENSE | : NO | | | | | | | | | | | |
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| 63 | (1 | B) C | LONE | : hu | AIC | | | | | | | | | | | | |
| 64 | | | | | | | | | | | | | | | | | |
| 65 | | • | • | ATURI | | | | | | | | | | | | | |
| 66 | • | • | | KEY: | | | | | | | | | | | | | |
| 67 | (1 | B) L | OCAT | ION: | 88. | .933 | | | | | | | | | | | |
| 68 | | | | | | | | | | | | | | | | | |
| 69 | | | | | | | | | | | | | | | | | |
| 70 | | (Xi |) SE | QUEN | CE DI | ESCR: | IPTI | ON: | SEQ : | ID NO | 0:1: | | | | | | |
| 71 | | | | | | | | | | | | | | | | | |
| 72 | CCT | CACT | GAC ' | TATA? | AAAG | AA TA | AGAG | AAGG | A AG | GCT' | rcag | TGA | CCGG | CTG (| CCTG | GCTGAC | 60 |
| 73 | | | | | | | | | | | | | | | | | |
| 74 | TTAC | | | | | | | | | | rg A' | rg g | AG G' | TC C | AG G | GG | 111 |
| 75 | _ | M | et A. | la Mo | | et G. | Lu Va | al G. | Ln G. | Ly | | | | | | | |
| 76 | 1 | | | | 5 | | | | | | | | | | | | |
| 77 | | | | | | | | | | | | | | | | | |
| 78 | | | | | | | | | | | | | | TTC | | | 159 |
| 79 | GTÀ | | ser | Leu | GTÀ | GIN | | cys | vaı | Leu | тте | | тте | Phe | Thr | val | |
| 80 | | 10 | | | | | 15 | | | | | 20 | | | | | |
| 81 | ama | ama | a. a | mam | ama | mam | ama | aam | am. |) am | | ama | m > a | | | | 007 |
| 82 | | | | | | | | | | | | | | TTT | | | 207 |
| 83 | | Leu | GIN | Ser | Leu | _ | vaı | ата | val | Thr | _ | vaı | тyr | Phe | Tnr | | |
| 84 | 25 | | | | | 30 | | | | | 35 | | | | | 40 | |
| 85 | | ama | | a. a | | a. a | ~~~ | | | | | | ~~~ | | aam | mam | 055 |
| 86 | | | | | | | | | | | | | | ATT | | | 255 |
| 87 | | | | | | | | | | | | | GTA | Ile | Ата | cys | |
| 88 | 45 | | | | | 50 | | | | | 55 | | | | | | |
| 89 | | | | | | | | | | | | | | | ~~~ | | 202 |
| 90 | | | | | | | | | | | | | | GAA | | | 303 |
| 91 | Phe | | Lys | GLu | Asp | Asp | | Tyr | Trp | Asp | Pro | | Asp | Glu | GLu | ser | |
| 92 | | 60 | | | | | 65 | | | | | 70 | | | | | |
| 93 | | | | | | | | | | | - | | | | | | |
| 94 | | | | | | | | | | | | | | CAG | | | 351 |
| 95 | | Asn | Ser | Pro | Cys | | Gln | Val | Lys | Trp | | Leu | Arg | Gln | Leu | Val | |
| 96 | 75 | | | | | 80 | | | | | 85 | | | | | | |
| 97 | _ | | | | | | _ | | | | | | _ | _ | | | |
| 98 | | | | | | | | | | | | | | | | CAA | 399 |
| 99 | Ara | Lys | Met | Ile | Leu | Ara | Thr | Ser | Glu | Glu | Thr | Ile | Ser | Thr | Val | Gln | |

RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 14:34:16

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| 100 | | 90 | | | | | 95 | | | | | 100 | | | | | |
| 101 | | | | | | | | | | | | | | | | | |
| 102 | | | | | | ATT | | | | | | | | | | | 447 |
| 103 | | Lys | GIn | Gln | Asn | Ile | Ser | Pro | Leu | Val | _ | Glu | Arg | Gly | Pro | | |
| 104 | 105 | | | | | 110 | | | | | 115 | | | | | 120 | |
| 105 | | ~m> | ~~` | | ~~~ | | | | | | | | | | | | |
| 106 | | | | | | ATA | | | | | | | | | | | 495 |
| 107 | | val | Ата | Ата | HIS | Ile | Thr | GTÀ | Thr | arg | | Arg | ser | Asn | Thr | Leu | |
| 108 109 | 125 | | | | | 130 | | | | | 135 | | | | | | |
| 110 | mam. | mam | CCA | 220 | maa | AAG | ааш | CIN N | 330 | aam | ama | aaa | aaa | | 3.013 | 330 | 543 |
| 111 | | | | | | Lys | | | | | | | | | | | 343 |
| 112 | Ser | 140 | FIO | ASII | Per | шуз | 145 | GIU | гуз | ита | Leu | 150 | Arg | гуъ | TTE | ASII | |
| 113 | | 110 | | | | | 175 | | | | | 130 | | | | | |
| 114 | TCC | TGG | GAA | TCA | TCA | AGG | AGT | GGG | САТ | тса | ጥጥር | CTG | AGC | AAC | ጥጥር፣ | CAC | 591 |
| 115 | | | | | | Arg | | | | | | | | | | | 371 |
| 116 | 155 | | | | | 160 | | 1 | | | 165 | | | | | | |
| 117 | | | | | | | | | | | | | | | | | |
| 118 | TTG | AGG | AAT | GGT | GAA | CTG | GTC | ATC | CAT | GAA | AAA | GGG | TTT | TAC | TAC | ATC | 639 |
| 119 | | | | | | Leu | | | | | | | | | | | |
| 120 | | 170 | | _ | | | 175 | | | | _ | 180 | | - | - | | |
| 121 | | | | | | • | | | | | | | | | | | |
| 122 | TAT | TCC | CAA | ACA | TAC | TTT | CGA | TTT | CAG | GAG | GAA | ATA | AAA | GAA | AAC | ACA | 687 |
| 123 | | Ser | Gln | Thr | Tyr | Phe | Arg | Phe | Gln | Glu | Glu | Ile | Lys | Glu | Asn | Thr | • |
| 124 | 185 | | | | | 190 | | | | | 195 | | | | | 200 | |
| 125 | | | | | | | | | | | | | | | | | |
| 126 | | | | | | ATG | | | | | | | | | | | 735 |
| 127 | | Asn | Asp | Lys | GIn | Met | Va⊥ | Gln | Tyr | Ile | | Lys | Tyr | Thr | Ser | Tyr | |
| 128 | 205 | | | | | 210 | | | | | 215 | | | | | | |
| 129 130 | aam | 030 | aam | 3003 | mma | mma | 3 m.a | | 3 am | aam | | | 3 CM | mam | maa | mam | 700 |
| 131 | | | | | | TTG Leu | | | | | | | | | | | 783 |
| 132 | PIO | 220 | PIO | TTE | Leu | ьец | 225 | гÀг | ser | Ата | Arg | 230 | ser | cys | тгр | Ser | |
| 133 | | 220 | | | | | 223 | | | | | 230 | | | | | |
| 134 | AAA | GAT | GCA | GAA | тат | GGA | СТС | тат | TCC | ΔТС | тдт | CAA | GGG | GGA | ΔΤΔ | ффф | 831 |
| 135 | | | | | | Gly | | | | | | | | | | | 001 |
| 136 | 235 | | | | - 4 - | 240 | | - 1 - | | | 245 | | 1 | | | | |
| 137 | | | | | | | | | | | | | | | | | |
| 138 | GAG | CTT | AAG | GAA | AAT | GAC | AGA | ATT | TTT | GTT | TCT | GTA | ACA | AAT | GAG | CAC | 879 |
| 139 | Glu | Leu | Lys | Glu | Asn | Asp | Arg | Ile | Phe | Val | Ser | Val | Thr | Asn | Glu | His | |
| 140 | | 250 | | | | | 255 | | | | | 260 | | | | | |
| 141 | | | | | | | | | | | | | | | | | |
| 142 | | | | | | CAT | | | | | | | | | | | 927 |
| 143 | | Ile | Asp | Met | Asp | His | Glu | Ala | Ser | Phe | | Gly | Ala | Phe | Leu | | |
| 144 | 265 | | | | | 270 | | | | | 275 | | | | | 280 | |
| 145 | ~~~ | | | | | | | | | | | | | | | | |
| 146 | | | CTG | ACCTO | GA A | AAGAA | AAA | C AA | TAAC | CTC | AAG | TGAC | TAT | TCAG | STTTT | 'CA | 983 |
| 147 148 | Gly | ~ | | | | | | | | | | | | | | | |
| 148 | | | | | | | | | | | | | | | | | |
| 150 | CCM | י ייי אַ נייי | ለሮል ና | ነጥ እ ጥረ | ימגגו | AT GT | ithithica s | *** | አመረ | יווירי א ר | א גייין | A A C' A | . א א ת א | . אא | א מיט מי | . א א מיי | G 1043 |
| 151 | COMI | . GAIF | .ca (| ·IMIC | MMUL | .1 61 | LICF | MMMF | MIC | LGAC | CAA | AACA | MACA | IAA C | AGAA | MACA | .G 1043 |
| 152 | ΑΑΑΖ | CAAZ | AA 2 | אממיי | ימייטי | G CA | Δηιση | ימאמי | י אמא | GC A C | יכר א | ראאר | ית מ מיי)י | א אא | ጥጥርብ | א מישמי | .C 1103 |
| | | | ·· F | | . J.A. | | | . JAY I | AGE | .JOAC | JOOA | CAAC | CARR | nn A | | ACAA | 1103 |

RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 14:34:19

INPUT SET: \$8602.raw

ACACACTGTT CTGAAAGTGA CTCACTTATC CCAAGAAAAT GAAATTGCTG AAAGATCTTT CAGGACTCTA CCTCATATCA GTTTGCTAGC AGAAATCTAG AAGACTGTCA GCTTCCAAAC ATTAATGCAA TGGTTAACAT CTTCTGTCTT TATAATCTAC TCCTTGTAAA GACTGTAGAA GAAAGCGCAA CAATCCATCT CTCAAGTAGT GTATCACAGT AGTAGCCTCC AGGTTTCCTT AAGGGACAAC ATCCTTAAGT CAAAAGAGAG AAGAGGCACC ACTAAAAGAT CGCAGTTTGC CTGGTGCAGT GGCTCACACC TGTAATCCCA ACATTTTGGG AACCCAAGGT GGGTAGATCA CGAGATCAAG AGATCAAGAC CATAGTGACC AACATAGTGA AACCCCATCT CTACTGAAAG TGCAAAAATT AGCTGGGTGT GTTGGCACAT GCCTGTAGTC CCAGCTACTT GAGAGGCTGA GGCAGGAGAA TCGTTTGAAC CCGGGAGGCA GAGGTTGCAG TGTGGTGAGA TCATGCCACT ACACTCCAGC CTGGCGACAG AGCGAGACTT GGTTTCAAAA AAAAAAAAA AAAAAAACTT CAGTAAGTAC GTGTTATTTT TTTCAATAAA ATTCTATTAC AGTATGTC (2) INFORMATION FOR SEQ ID NO:2: (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 281 amino acids (B) TYPE: amino acid (D) TOPOLOGY: linear (ii) MOLECULE TYPE: protein (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2: Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys Val Leu Ile Val Ile Phe Thr Val Leu Cln Ser Leu Cys Val Ala Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr Trp Asp Pro Asn Asp Glu Glu Ser Met Asn Ser Pro Cys Trp Gln Val Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Met Ile Leu Arg Thr Ser

RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 14:34:23

| | | | | | | | | | | | | | | IN | IPUT | SET: S |
|-----|----------------|-----------|--------|--------|---------|--------------|--------|--------|-------|---------|------------|--------------|-----|-------|-------------|--------|
| 206 | Glu | Glu | Thr | Ile | Ser | Thr | Val | Gln | Glu | Lys | Gln | Gln | Asn | | | Pro |
| 207 | | 100 | | | | | 105 | | | _ | | 110 | | | | |
| 208 | | | | | | | | | | | | | | | | |
| 209 | Leu | Val | Arq | Glu | Arq | Glv | Pro | Gln | Arg | Val | Ala | Ala | His | Ile | Thr | Gly |
| 210 | 115 | | _ | | _ | 120 | | | _ | | 125 | | | | | • |
| 211 | | | | | | | | | | | | | | | | |
| 212 | Thr | Ara | Glv | Ara | Ser | Asn | Thr | Leu | Ser | Ser | Pro | Asn | Ser | Lvs | Asn | Glu |
| 213 | | 130 | 1 | 5 | | | 135 | | | | | 140 | | -1- | | |
| 214 | | | | | | | | | | | | | | • | | |
| 215 | T.ve | λla | T. 211 | G] v | Ara | T. 17 C | Tla | Asn | Ser | Trn | Glu | Ser | Sar | Ara | Sor | Gl v |
| 216 | 145 | AIG | пеа | GTA | ALG | 150 | 116 | ASII | Ser | 11P | 155 | Der | Der | ALG | Ser | 160 |
| 217 | 143 | | | | | 130 | | | | | 133 | | | | | 100 |
| 217 | uic | Sor | Dho | T 011 | 802 | λcn | T 011 | His | T 011 | Ara | Acn | 61 11 | GI. | F 011 | v-1 | Tla |
| 219 | 165 | Ser | FIIE | Leu | Ser | 170 | Leu | UIS | Leu | MIG | 175 | сту | GIU | Leu | νат | 116 |
| 220 | 163 | | | | | 1/0 | | | | | 1/3 | | | | | |
| | *** | a1 | T | a1 | Db. | m | M | T1 - | m | | a 1 | mb | M | Dh. | 3 | Dh a |
| 221 | HIS | | гàг | СТА | Pne | Tyr | _ | Ile | Tyr | ser | GIN | | Tyr | Pne | Arg | Pne |
| 222 | | 180 | | | | | 185 | | | | | 190 | | | | |
| 223 | | | | | _ | | _ | | _ | _ | _ | | | | - | |
| 224 | | GLu | GLu | Ile | Lys | | Asn | Thr | Lys | Asn | _ | Lys | GIn | Met | Va⊥ | GIn |
| 225 | 195 | | | | | 200 | | | | | 205 | | | | | |
| 226 | | _ | | | | _ | | | | | | _ | | | _ | |
| 227 | \mathtt{Tyr} | | Tyr | Lys | Tyr | Thr | Ser | Tyr | Pro | Asp | Pro | Ile | Leu | Leu | Met | Lys |
| 228 | | 210 | | | | | 215 | | | | | 220 | | | | |
| 229 | | | | | | | | | | | | | | | | |
| 230 | Ser | Ala | Arg | Asn | Ser | Cys | Trp | Ser | Lys | Asp | Ala | Glu | Tyr | Gly | Leu | Tyr |
| 231 | 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| 232 | | | | | | | | | | | | | | | | |
| 233 | Ser | Ile | Tyr | Gln | Gly | Gly | Ile | Phe | Glu | Leu | Lys | Glu | Asn | Asp | Arg | Ile |
| 234 | 245 | | _ | | _ | 250 | | | | | 255 | | | _ | _ | |
| 235 | | | | | | | | | | | | | | | | |
| 236 | Phe | Val | Ser | Val | Thr | Asn | Glu | His | Leu | Ile | Asp | Met | Asp | His | Glu | Ala |
| 237 | | 260 | | | | | 265 | | | | - | 270 | - | | | |
| 238 | | | | | | | | | | | | | | | | |
| 239 | Ser | Phe | Phe | Glv | Ala | Phe | Leu | Val | Glv | | | | | , | | |
| 240 | 275 | | | 1 | | 280 | | | 1 | | | | | | | |
| 241 | | | | | | | | | | | | | | | | |
| 242 | (2) | TNFC | RMAT | MOTT | FOR | SEO | TD N | NO: 3: | , | | | | | | | |
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| 249 | | , , , , | . MOT | DOLL | - m | , DE . | ~ D.M. | | | | | - | | | | |
| 250 | | (11) | MOL | TECO1 | ъв ТУ | rr: | CDN | A to | MKNA | 1 | | | | | | |
| 251 | | . , , , . | | | .m.r | . . . | •• | | | | | | | | | |
| 252 | (| (111) | HYE | OTHE | TTC | AL: N | NO. | | | | | | | | | |
| 253 | | | | | | | | | | | | | | | | |
| 254 | | (1V) | L'NA | 'I-SE | INSE: | NO | | | | | | | | | ٠ | |
| 255 | | | | | | | | | | | | | | | | |
| 256 | | | | | | | | | | | | | | | | |
| 257 | | | | | | SOURC | E: | | | | | | | | | |
| 258 | (E | 3) CI | ONE: | Hu# | IC-C | v | | | | | | | | | | |
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RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 14:34:27

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***** PREVIOUSLY ERRORED SEQUENCES - EDITED *****

| 177 178 | (2) | INF | ORMA | TION | FOR | SEQ | ID : | NO:2 | : | | | | | | | |
|------------|------------|------|----------------|------------|----------|------------|--------------|-------------|--------------|-------|------------|----------|---------|-----|-------|-------------|
| 179 | | | (i) | SEQU: | ENCE | CHA | RACT | ERIS' | TICS | : | | | | | | |
| 180 | | | | | | | ino a | acid | s | | | | | | | |
| 181 | | | | | amin | | | | | | | | | | | |
| 182 | | (D |) TO | POLO | GY: | line | ar | | | | | | | | | |
| 183 | | | | | ~ | ~ | _ | | | | | | | | | |
| 184 185 | | (: | 11) | MOLE | COLE | TYP | E: p: | rote | ın | | | | | | | |
| 186 | | | υ ί \ ' | SEOI1 | CNCC | חפפ | CRIP' | TT (N | . CF | ^ TN | NO. | | | | | |
| 187 | | ١. | <u>.</u> | 3HQ0 | BIVCE | יכנות | CKIF | IION | . DE | 5 TD | NO. | 4 • | | | | |
| 188 | Met | Ala | Met | Met | Glu | Val | Gln | Glv | Glv | Pro | Ser | Leu | Glv | Gln | Thr | Cvs |
| 189 | 1 | | | | 5 | | | 1 | 1 | 10 | | | 1 | | 15 | - 12 |
| 190 | | | | | | | | | | | | | | | | |
| 191 | Val | Leu | Ile | Val | Ile | Phe | Thr | Val | Leu | Leu | Gln | Ser | Leu | Cys | Val | Ala |
| 192 | | 20 | | | | | 25 | | | | | 30 | | | | |
| 193 | ••- 3 | | | | _ | | _, | _ | | _ | _ | | • | | _ | _ |
| 194 195 | | unr | Tyr | vaı | туr | | Thr | Asn | GIU | Leu | _ | GIn | Met | GIn | Asp | Lys |
| 196 | 35 | | | | | 40 | | | | | 45 | | | | | |
| 197 | Tur | Ser | T.vs | Ser | Glv | Tla | Ala | Cne | Dha | Γ.Δ11 | T.ve | Glu. | λen | λen | Sar | ጥ፣ታም |
| 198 | -1- | 50 | _,_ | 501 | 013 | 110 | 55 | Cys | 1110 | пец | цуз | 60 | изр | АЗР | 261 | ıyı |
| 199 | | - • | | | | | | | | | | • | | | | |
| 200 | Trp | Asp | Pro | Asn | Asp | Glu | Glu | Ser | Met | Asn | Ser | Pro | Cys | Trp | Gln | Val |
| 201 | 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| 202 | | | _ | | | | | | | | | | | | | |
| 203 | | Trp | Gln | Leu | Arg | | Leu | Val | Arg | Lys | | Ile | Leu | Arg | Thr | Ser |
| 204 | 85 | | | | | 90 | | | | | 95 | | | | | |
| 205 206 | Glu | Glu. | Пhr | Tla | 807 | Th. | Val | C1 n | 61. 1 | T *** | al n | a1 n | *~~ | т1. | Com | Dwa |
| 207 | GIU | 100 | 1111 | TTE | Set | 1111 | 105 | GIII | GIU | rys | GIII | 110 | ASII | тте | Ser | PIO |
| 208 | | -00 | | | | | 103 | | | | | 110 | | | | |
| 209 | Leu | Val | Arg | Glu | Arg | Gly | Pro | Gln | Arq | Val | Ala | Ala | His | Ile | Thr | Gly |
| 210 | 115 | | _ | | | 120 | | | _ | | 125 | | | | | |
| 211 | | | | | | | | | | | | | | | | |
| 212 | Thr | | Gly | Arg | Ser | Asn | Thr | Leu | Ser | Ser | Pro | | Ser | Lys | Asn | Glu |
| 213 | | 130 | | | | | 135 | | | | | 140 | | | | |
| 214 | T | .1. | T | a 1 | . | T | - 1 - | | ~ | m | a 1 | ~ | | _ | _ | ~7 |
| 215 216 | Lys 145 | Ата | Leu | сту | Arg | LуS 150 | Ile | Asn | ser | Trp | | Ser | Ser | Arg | Ser | _ |
| 216 | 143 | | | | | 130 | | | | | 155 | | | | | 160 |
| 218 | His | Ser | Phe | Leu | Ser | Asn | Leu | His | Leu | Ara | Asn | Glv | Glu | Leu | Val | Tle |
| 219 | 165 | | | | | 170 | | | | 9 | 175 | 1 | | | · u · | |
| 220 | | | | | | | | | | | | | | | | |
| 221 | His | Glu | Lys | Gly | Phe | Tyr | Tyr | Ile | Tyr | Ser | Gln | Thr | Tyr | Phe | Arg | Phe |
| 222 | | 180 | | | | | 185 | | | | | 190 | _ | | _ | |
| 223 | | | | | | | | | | | | | | | | |

RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96

TIME: 14:34:30

| 224 | | Glu | Glu | Ile | Lys | | Asn | Thr | Lys | Asn | _ | Lys | Gln | | | SET: S8602.raw Gln | |
|--|-------------------------------|-------------------------|-------------------|-------------------|--------------|------------------------|------------------|------------|---------------|------------|-------------------------------|------------------|------------|------------|------|-----------------------|--|
| 225 226 | | ~1 - | | • | | 200 | ~ | | | • | 205 | ~ 7 . | • | | | _ | |
| 227 228 229 | Tyr | 210 | туг | Lys | Tyr | Thr | 215 | Tyr | Pro | Asp | Pro | 220 | Leu | Leu | мет | Lys | |
| 230 231 | Ser 225 | Ala | Arg | Asn | Ser | Cys 230 | Trp | Ser | Lys | Asp | Ala 235 | Glu | Tyr | Gly | Leu | . - | |
| 232 | | | | ~ 3 | ~ 1 . | | | -1 | ~ 1 | | | ~ 3. | | | _ | 240 | |
| 233 234 | Ser 245 | ITE | туr | Gln | ста | 250 | TTE | Pne | GIU | Leu | Lуs 255 | GIU | Asn | Asp | Arg | IIe | |
| 235 236 | Phe | | Ser | Val | Thr | Asn | Glu | His | Leu | Ile | Asp | Met | Asp | His | Glu | Ala | |
| 237 238 | | 260 | | | | | 265 | | | | | 270 | | | | | |
| 239 240 | Ser 275 | Phe | Phe | Gly | Ala | Phe 280 | Leu | Val | Gly | | | | | | | | |
| 241 | | | | | | | | | | | | | | | | | |
| 336 337 | (2) | INF | ORMA' | rion | FOR | SEQ | ID 1 | NO:4 | • | | | | | | | | |
| 338 | | | (i) | SEQUI | ENCE | CHAE | RACTI | ERIS | rics: | • | | | | | | | |
| 339 | | | | NGTH | | | | | | = | | | | | | | |
| 340 | | | | ?E: a | | | | | | | | | | | | | |
| 341 | | • | • | POLO | | | | | | | | | | | | | |
| 342 | | • | • | | | | | | | | | | | | | | |
| 343 | | (: | ii) N | MOLE | CULE | TYPE | : p | rote | in | | | | | | | | |
| 344 | | • | • | | | | - | | | | | | | | | | |
| 345 | | (: | ki) S | SEQUE | ENCE | DESC | RIP | TION | : SE | QI C | NO: | 4: | | | | | |
| 346 | | • | • | _ | | | | | | _ | | | | | | | |
| 347 | Met | Ala | Met | Met | Glu | Val | Gln | Gly | Gly | Pro | Ser | Leu | Gly | Gln | Thr | Cys | |
| 348 | 1 | | | | 5 | | | • | - | 10 | | | - | | 15 | - | |
| 349 | | | | | | | | | | | | | | | | | |
| 350 | Val | Leu | Ile | Val | Ile | Phe | Thr | Val | Leu | Leu | Gln | Ser | Leu | Cvs | Val | Ala | |
| 351 | | 20 | | | | | 25 | | | | | 30 | | • | | | |
| 352 | v. 1 | | | | | | _, | _ | | | | _ | | a 1 | N am | Twa | |
| 252 | | mb ~ | TITLE ST | 1727 | TT 7 7 7 7 | Dho | | N C P | α_{11} | T 011 | T *** | ~1 m | 140+ | | | | |
| 353 354 | 35 | Thr | Tyr | Val | Tyr | Phe 40 | Thr | Asn | Glu | Leu | Lys 45 | Gln | Met | GIN | ASP | цуз | |
| | | Thr | Tyr | Val | Tyr | | Thr | Asn | Glu | Leu | - | Gln | Met | GIN | ASP | цуз | |
| 35 4 355 | 35 | | - | | - | 40 | | | | | 45 | | | | _ | - | |
| 354 | 35 Tyr | Ser | Lys | Val Ser | Gly | 40 Ile | Ala | Cys | Phe | Leu | 45 | Glu | | | _ | - | |
| 354 355 356 | 35 Tyr | Ser | Lys | Ser | Gly | 40 Ile | Ala | Cys | Phe | Leu | 45 Lys | Glu | | | _ | - | |
| 354 355 356 357 | 35 Tyr | Ser 50 | Lys | Ser | gly | 40 Ile | Ala 55 | Cys | Phe | Leu | 45 Lys | Glu 60 | Asp | Asp | Ser | Tyr | |
| 354 355 356 357 358 | 35 Tyr | Ser 50 | Lys | Ser | gly | 40 Ile | Ala 55 | Cys | Phe | Leu | 45 Lys | Glu 60 | Asp | Asp | Ser | Tyr | |
| 354 355 356 357 358 359 | 35 Tyr Trp | Ser 50 | Lys | Ser | gly | 40 Ile Glu | Ala 55 | Cys | Phe | Leu | 45 Lys Ser | Glu 60 | Asp | Asp | Ser | Tyr Val | |
| 354 355 356 357 358 359 360 | 35 Tyr Trp 65 | Ser 50 Asp | Lys Pro | Ser Asn | Gly | 40 Ile Glu 70 | Ala 55 Glu | Cys Ser | Phe Met | Leu Asn | 45 Lys Ser 75 | Glu 60 Pro | Asp Cys | Asp Trp | Ser | Tyr Val 80 | |
| 354 355 356 357 358 359 360 361 | 35 Tyr Trp 65 | Ser 50 Asp | Lys Pro | Ser | Gly | 40 Ile Glu 70 | Ala 55 Glu | Cys Ser | Phe Met | Leu Asn | 45 Lys Ser 75 | Glu 60 Pro | Asp Cys | Asp Trp | Ser | Tyr Val 80 | |
| 354 355 356 357 358 359 360 361 362 | 35 Tyr Trp 65 Lys | Ser 50 Asp | Lys Pro | Ser Asn | Gly | 40 Ile Glu 70 Gln | Ala 55 Glu | Cys Ser | Phe Met | Leu Asn | 45 Lys Ser 75 Thr | Glu 60 Pro | Asp Cys | Asp Trp | Ser | Tyr Val 80 | |
| 354 355 356 357 358 359 360 361 362 363 | Tyr Trp 65 Lys 85 | Ser 50 Asp Trp | Lys Pro Gln | Ser Asn | Gly Asp | 40 Ile Glu 70 Gln | Ala 55 Glu | Cys Ser | Phe Met | Leu Asn | 45 Lys Ser 75 Thr | Glu 60 Pro | Asp Cys | Asp Trp | Ser | Tyr Val 80 | |
| 354 355 356 357 358 359 360 361 362 363 364 | Tyr Trp 65 Lys 85 | Ser 50 Asp Trp | Lys Pro Gln | Ser Asn Leu | Gly Asp | 40 Ile Glu 70 Gln | Ala 55 Glu | Cys Ser | Phe Met | Leu Asn | 45 Lys Ser 75 Thr | Glu 60 Pro | Asp Cys | Asp Trp | Ser | Tyr Val 80 | |
| 354 355 356 357 358 359 360 361 362 363 364 365 | Tyr Trp 65 Lys 85 | Ser 50 Asp Trp | Lys Pro Gln | Ser Asn Leu | Gly Asp | 40 Ile Glu 70 Gln | Ala 55 Glu | Cys Ser | Phe Met | Leu Asn | 45 Lys Ser 75 Thr | Glu 60 Pro | Asp Cys | Asp Trp | Ser | Tyr Val 80 | |





SEQUENCE VERIFICATION REPORT PATENT APPLICATION *US/08/548,368*

DATE: 02/08/96 TIME: 14:34:34

INPUT SET: S8602.raw

Line

Error

Original Text

27

Wrong application Serial Number

(A) APPLICATION NUMBER: US --to be assigned--

RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 13:23:57

INPUT SET: S8602.raw

Does Not Comply Corrected Diskette Needed

This Raw Listing contains the General Information Section and those Sequences containing ERRORS.

```
1
                                       SEQUENCE LISTING
 2
            General Information:
 3
    (1)
 5
          (i) APPLICANT: Wiley, Steven R.
 6
      Goodwin, Raymond G.
 7
         (ii) TITLE OF INVENTION: Cytokine that Induces Apoptosis
 8
 9
10
        (iii) NUMBER OF SEQUENCES: 9
11
12
         (iv) CORRESPONDENCE ADDRESS:
13
               (A) ADDRESSEE: Kathryn A. Anderson, Immunex Corporation
14
               (B) STREET: 51 University Street
15
               (C) CITY: Seattle
16
               (D) STATE: WA
17
               (E) COUNTRY: USA
18
               (F) ZIP: 98101
19
20
          (V) COMPUTER READABLE FORM:
21
               (A) MEDIUM TYPE: Floppy disk
22
               (B) COMPUTER: Apple Macintosh
23
               (C) OPERATING SYSTEM: Apple 7.1
24
               (D) SOFTWARE: Microsoft Word, Version 5.1a
25
26
         (vi) CURRENT APPLICATION DATA:
               (A) APPLICATION NUMBER: US -- to be assigned --
27
28
               (B) FILING DATE: 01-NOV-1995
29
               (C) CLASSIFICATION:
30
31
         (vii) PRIOR APPLICATION DATA:
32
               (A) APPLICATION NUMBER: US 08/496,632
33
               (B) FILING DATE: 29-JUN-1995
34
               (C) CLASSIFICATION:
35
       (viii) ATTORNEY/AGENT INFORMATION:
36
37
               (A) NAME: Anderson, Kathryn A.
38
               (B) REGISTRATION NUMBER: 32,172
39
               (C) REFERENCE/DOCKET NUMBER: 2835-A
40
41
         (ix) TELECOMMUNICATION INFORMATION:
42
               (A) TELEPHONE: (206) 587-0430
43
               (B) TELEFAX: (206) 233-0644
44
               (C) TELEX: 756822
45
```

RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 13:24:00

INPUT SET: S8602.raw

46

ERRORED SEQUENCES FOLLOW:

| | | | | | | | | | | | | | | \sim | | | |
|---|-----|-----|-----|-------|-------|-------|------|-------|-------|------|------|-----|--------|--------|-----|------|-----------|
| | 177 | (2) | INF | ORMA! | TION | FOR | SEQ | ID 1 | NO: 2 | : | | | | | | - | |
| | 178 | | | | | | | | | | | | | | | Z \r | _ |
| | 179 | | 1 | (1) : | SEQUI | | | | , | | | | χ | 1 | | 8 1 | α |
| > | 180 | | | | | | | | | ńino | aci | ds | ی رو | 25 | | 4 | 1 |
| | 181 | | | | | | | amino | | | | | | l | | ¥ | \sim 04 |
| | 182 | | | | (D |) TOI | POLO | GY: | Linea | ar | | | | ` | , | - 1 | |
| | 183 | | | | | | | | | | | | | | 7 | | Ine. |
| | 184 | | (: | ii) l | MOLE | CULE | TYP | E: p: | rote: | in | | | | | | 1 | / |
| | 185 | | | | | | | | | | | | | | | Y | x+50 |
| | 186 | | (2 | Ki) S | SEQUI | ENCE | DES | CRIP | rion | : SE | O ID | NO: | 2: | | | _ | Qr.3 |
| | 187 | | _ | | | _ | | _ | _ | _ | | | | _ | _ | | |
| | 188 | | Ala | Met | Met | Glu | Val | Gln | Gly | Gly | Pro | Ser | Leu | Gly | Gln | | Cys |
| | 189 | 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| | 190 | | | | | | | | | | | | | | | | |
| | 191 | Val | Leu | Ile | Val | Ile | Phe | Thr | Val | Leu | Leu | Gln | Ser | Leu | Cys | Val | Ala |
| | 192 | | | | 20 | | | | | 25 | | | | | 30 | | |
| | 193 | | | | | | | | | | | | • | | | | |
| | 194 | Val | Thr | | Val | Tyr | Phe | Thr | Asn | Glu | Leu | Lys | Gln | Met | Gln | Asp | Lys |
| | 195 | | | 35 | | | | | 40 | | | | | 45 | | | |
| | 196 | | | | | | | | | ` | | | | | | | |
| | 197 | Tyr | | Lys | Ser | Gly | Ile | Ala | Cys | Phe | Leu | Lys | Glu | Asp | Asp | Ser | Tyr |
| | 198 | | 50 | | | | | 55 | | | | | 60 | | | | |
| | 199 | | | | | | | | | | | | | | | | |
| | 200 | Trp | Asp | Pro | Asn | Asp | Glu | Glu | Ser | Met | Asn | Ser | Pro | Cys | Trp | Gln | Val |
| | 201 | 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| | 202 | | | | | | | | | | | | | | | | |
| | 203 | Lys | Trp | Gln | Leu | Arg | Gln | Leu | Val | Arg | Lys | Met | Ile | Leu | Arg | Thr | Ser |
| | 204 | | | | | 85 | | | | | 90 | | | | | 95 | |
| | 205 | | | | | | | | | | | | | | | | |
| | 206 | Glu | Glu | Thr | Ile | Ser | Thr | Val | Gln | Glu | Lys | Gln | Gln | Asn | Ile | Ser | Pro |
| | 207 | | | | 100 | | | | | 105 | | | | | 110 | | |
| | 208 | | | | | | | | | | | | | | | | |
| | 209 | Leu | Val | Arg | Glu | Arg | Gly | Pro | Gln | Arg | Val | Ala | Ala | His | Ile | Thr | Gly |
| | 210 | | | 115 | | | | | 120 | | | | | 125 | | | |
| | 211 | | | | | | | | | | | | | | | | |
| | 212 | Thr | Arg | Gly | Arg | Ser | Asn | Thr | Leu | Ser | Ser | Pro | Asn | Ser | Lys | Asn | Glu |
| | 213 | | 130 | | | | | 135 | | | | | 140 | | | | |
| | 214 | | | | | | | | | | | | | | | | |
| | 215 | Lys | Ala | Leu | Gly | Arg | Lys | Ile | Asn | Ser | Trp | Glu | Ser | Ser | Arg | Ser | Gly |
| | 216 | 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| | 217 | | | | | | | | | | | | | | | | |
| | 218 | His | Ser | Phe | Leu | Ser | Asn | Leu | His | Leu | Arg | Asn | Gly | Glu | Leu | Val | Ile |
| | 219 | | | | | 165 | | | | | 170 | | _ | | | 175 | |
| | 220 | | | | | | | | | | | | | | | | |
| | 221 | His | Glu | Lys | Gly | Phe | Tyr | Tyr | Ile | Tyr | Ser | Gln | Thr | Tyr | Phe | Arg | Phe |
| | 222 | | | | 180 | | - | - | | 185 | | | | - | 190 | _ | |
| | | | | | | | | | | | | | | | | | |

RAW SEQUENCE LISTING PATENT APPLICATION US/08/548,368

DATE: 02/08/96 TIME: 13:24:03

| 223 224 225 226 227 227 228 227 229 220 229 230 250 262 262 27 280 280 280 280 280 280 280 280 280 280 | | | | | | | | | | | | | | | | 11 | VPUI | SEI: | 3000 | 2.raw | | |
|--|---|-----|------|--------------|--------------|------------|--------------|--------------|-----------|----------|-------|---------------|-----------------|------------|--------------|------------|------------------|------|---------------|---------|---------|---------|
| 225 226 227 228 229 230 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 225 230 231 235 240 232 233 236 245 250 237 238 237 240 238 239 239 240 241 250 270 238 239 240 241 250 270 238 239 240 241 250 270 238 239 240 241 250 270 238 239 240 241 260 275 280 270 280 281 280 280 280 280 280 280 280 280 280 280 | | | al n | 01 11 | 01 11 | т10 | Tue | 61 11 | λcn | Прх | Tuc | λan | λen | T we | al n | Mot | บาไ | aln | | | | |
| 227 Tyr Ile Tyr Lys Tyr Thr Ser Tyr Pro Asp Pro Ile Leu Leu Met Lys 228 210 | | | GIH | GIU | | | րդջ | GIU | ASII | | _ | ASII | ASP | гур | | Met | vaı | GIII | | | | |
| 227 Tyr Ile Tyr Lys Tyr Thr Ser Tyr Pro Asp Pro Ile Leu Leu Met Lys 210 215 210 215 220 229 220 Ser Ala Arg Asn Ser Cys Trp Ser Lys Asp Ala Glu Tyr Gly Leu Tyr 211 225 230 230 235 240 240 221 225 230 235 240 255 255 255 256 255 255 256 255 255 256 255 255 | | | | | | | | | | 200 | | | | | 200 | | | | | | | |
| 228 229 230 Ser Ala Arg Asn Ser Cys Trp Ser Lys Asp Ala Glu Tyr Gly Leu Tyr 231 225 230 235 235 240 232 233 Ser Ile Tyr Gln Gly Gly Ile Phe Glu Leu Lys Glu Asn Asp Arg Ile 234 245 250 255 235 Phe Val Ser Val Thr Asn Glu His Leu Ile Asp Met Asp His Glu Ala 237 260 265 270 238 29 Ser Phe Phe Gly Ala Phe Leu Val Gly Warrier Gly Let Asp His Glu Ala 238 239 Ser Phe Phe Gly Ala Phe Leu Val Gly Warrier Gly Let Amistaki 240 275 280 Computer Gleted Initiation 241 275 280 Computer Gleted Initiation 241 280 Computer Gleted Initiation 241 280 Computer Gleted Initiation 241 280 Computer Gleted Initiation 242 (i) SEQUENCE CHARACTERISTICS: 2339 (A) LEMNOTH: 100 amino acids 243 (ii) MOLECULE TYPE: protein 244 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 245 10 15 246 10 15 25 20 25 30 25 30 366 17 Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Gln Met Gln Asp Lys 25 35 35 Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr 25 55 356 366 17 Asp Pro Asn Asp Glu Glu Ser Met Asn Ser Pro Cys Trp Gln Val 364 365 Leu Trp Ala Ala Lys ** 25 2 | | | Tyr | Ile | Tyr | Lys | Tyr | Thr | Ser | Tyr | Pro | Asp | Pro | Ile | Leu | Leu | Met | Lys | | | | |
| 230 Ser Ala Arg Asn Ser Cys Trp Ser Lys Asp Ala Glu Tyr Gly Leu Tyr 231 225 230 235 236 240 232 233 Ser Ile Tyr Gln Gly Gly Ile Phe Glu Leu Lys Glu Asn Asp Arg Ile 234 245 250 255 236 Phe Val Ser Val Thr Asn Glu His Leu Ile Asp Met Asp His Glu Ala 237 260 265 238 239 Ser Phe Phe Gly Ala Phe Leu Val Gly Tyr Ser Lys Asp Asp Asp Lys Computer Gleted to Mistake 241 275 280 Computer Gleted to Mistake 241 336 (2) INFORMATION FOR SEQ ID NO:4: 337 (i) SEQUENCE CHARACTERISTICS: 339 (A) LENGTH: 1000 emino acids 340 (B) TYPE: amino acid 341 (D) TOPOLOGY: linear 342 (ii) MOLECULE TYPE: protein 343 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 345 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 346 347 Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys 348 1 5 10 15 349 350 Val Leu Ile Val Ile Phe Thr Val Leu Leu Gln Ser Leu Cys Val Ala 351 20 25 30 352 353 Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys 354 35 355 Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Gln Map Asp Ser Tyr 360 65 70 60 361 362 Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Thr Pro Arg Met Lys Arg 363 364 365 Leu Trp Ala Ala Lys ** 1000 240 250 265 270 280 270 270 280 270 270 270 270 270 270 270 270 270 27 | | | - | | - | - | • | | | - | | - | | | | | | • | | | | |
| 231 225 230 235 240 233 Ser Ile Tyr Gln Gly Gly Ile Phe Glu Leu Lys Glu Asn Asp Arg Ile 234 250 255 236 Phe Val Ser Val Thr Asn Glu His Leu Ile Asp Met Asp His Glu Ala 237 260 265 238 Ser Phe Phe Gly Ala Phe Leu Val Gly 240 275 280 280 280 241 280 275 240 275 280 280 280 241 280 275 280 280 241 280 280 280 280 241 280 280 280 280 241 280 280 280 280 241 280 280 280 280 241 280 280 280 241 280 280 280 241 280 280 280 241 280 280 241 280 280 241 280 280 241 280 280 241 280 280 250 280 250 280 250 260 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 | | 229 | | | | | | | | | | | | | | | | | | | | |
| 233 233 234 235 236 236 237 237 238 238 239 240 241 250 250 255 270 260 265 270 265 270 260 275 280 280 280 280 280 280 280 280 280 280 | | 230 | Ser | Ala | Arg | Asn | Ser | Cys | Trp | Ser | Lys | Asp | Ala | Glu | Tyr | Gly | Leu | Tyr | | | | |
| 233 Ser Ile Tyr dln Cly Gly Ile Phe Glu Leu Lys dlu Asn Asp Arg Ile 234 245 250 255 236 Phe Val Ser Val Thr Asn Glu His Leu Ile Asp Met Asp His Glu Ala 237 260 265 238 Ser Phe Phe Gly Ala Phe Leu Val Gly 240 275 280 Computer de leted tomistate 241 Computer de leted tomistate 242 Computer de leted tomistate 243 (2) INFORMATION FOR SEQ ID NO:4: 336 (2) INFORMATION FOR SEQ ID NO:4: 337 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 100 amino acids (B) TYPE: amino acids (B) TYPE: amino acids (Ci) MOLECULE TYPE: protein (Xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 344 (Xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 345 (Xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 346 (Xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 347 Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys 348 1 5 10 15 349 340 Val Leu Ile Val Ile Phe Thr Val Leu Leu Gln Ser Leu Cys Val Ala 350 Val Leu Ile Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys 351 353 Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Glu Asp Asp Ser Tyr 357 50 55 60 358 Try Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr 357 50 55 60 361 100 362 Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Thr Pro Arg Met Lys Arg 363 364 365 Leu Trp Ala Ala Lys ** 366 100 | | | 225 | | | | | 230 | | | | | 235 | | | | | 240 | | | | |
| 234 235 236 236 237 240 250 260 265 270 260 265 270 280 280 277 280 280 280 280 280 280 280 280 280 280 | | | | | | | | | | | | | _ | | | | _ | | | | | |
| 235 236 Phe Val Ser Val Thr Asn Glu His Leu Ile Asp Met Asp His Glu Ala 237 238 239 Ser Phe Phe Gly Ala Phe Leu Val Gly 240 275 280 280 270 280 280 270 280 280 270 280 280 280 280 280 280 280 280 280 28 | | | Ser | Ile | Tyr | Gln | _ | Gly | Ile | Phe | Glu | | Lys | Glu | Asn | Asp | | Ile | | | | |
| 236 Phe Val Ser Val Thr Asn Glu His Leu Ile Asp Met Asp His Glu Ala 237 238 239 Ser Phe Phe Cly Ala Phe Leu Val Gly 275 280 Computer de leted a mistake 241 275 280 Computer de leted a mistake 241 275 280 Computer de leted a mistake 242 Computer de leted a mistake 243 337 338 (i) SEQUENCE CHARACTERISTICS: 339 (A) LENGTH: 100 amino acids 341 (D) TOPOLOGY: linear 342 343 (ii) MOLECULE TYPE: protein 344 345 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 346 347 Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys 348 1 5 10 349 350 Val Leu Ile Val Ile Phe Thr Val Leu Leu Gln Ser Leu Cys Val Ala 351 20 25 30 352 353 Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys 354 35 Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr 357 50 55 358 359 Trp Asp Pro Asn Asp Glu Glu Ser Met Asn Ser Pro Cys Trp Gln Val 360 65 70 75 80 361 362 Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Thr Pro Arg Met Lys Arg 363 364 365 Leu Trp Ala Ala Lys ** 366 100 | | | | | | | 245 | | | | | 250 | | | | | 255 | | | | | |
| 237 238 239 240 275 280 280 275 280 280 280 280 280 280 280 280 280 280 | | | Dhe | Val | Sor | Va1 | Thr | λen | @lu | Hie | T.611 | Tla | Aen | Mat | Agn | Hie | G] 11 | λla | | | | |
| 238 239 Ser Phe Phe Gly Ala Phe Leu Val Gly 240 275 280 Computer de leted + mistake 241 336 (2) INFORMATION FOR SEQ ID NO:4: 337 338 (i) SEQUENCE CHARACTERISTICS: 339 (A) LENGTH: 100 amino acids 341 (D) TOPOLOGY: linear 342 343 (ii) MOLECULE TYPE: protein 344 345 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 346 347 Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys 348 1 5 10 15 349 350 Val Leu Ile Val Ile Phe Thr Val Leu Leu Gln Ser Leu Cys Val Ala 351 20 25 353 Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys 355 356 Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr 357 358 359 Trp Asp Pro Asn Asp Glu Glu Ser Met Asn Ser Pro Cys Trp Gln Val 360 361 362 Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Thr Pro Arg Met Lys Arg 363 364 365 Leu Trp Ala Ala Lys ** 366 366 370 386 387 388 389 389 384 385 386 389 384 385 386 389 384 385 386 389 384 385 386 387 388 389 389 384 385 386 389 384 385 386 387 388 389 389 384 385 386 387 388 389 389 380 380 380 381 384 385 386 387 388 389 389 380 380 380 381 384 385 386 387 388 389 389 380 380 380 380 380 380 380 380 380 380 | | | | | | 260 | | | | | 265 | | _ | | _ | 274 | | | | , | | |
| 337 338 (i) SEQUENCE CHARACTERISTICS: 340 (B) TYPE: amino acids 341 (D) TOPOLOGY: linear 342 343 (ii) MOLECULE TYPE: protein 344 345 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 346 347 Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys 348 1 5 10 15 349 350 Val Leu Ile Val Ile Phe Thr Val Leu Leu Gln Ser Leu Cys Val Ala 351 20 25 353 Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys 354 355 356 Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr 357 358 359 Trp Asp Pro Asn Asp Glu Glu Ser Met Asn Ser Pro Cys Trp Gln Val 360 361 362 Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Thr Pro Arg Met Lys Arg 363 364 365 Leu Trp Ala Ala Lys ** 359 360 361 362 366 366 366 366 367 368 368 369 360 366 | | | | | | | | | | | | | _ | | . | | | ١ ١ | $\overline{}$ | Lea | ٠. | |
| 337 338 (i) SEQUENCE CHARACTERISTICS: 340 (B) TYPE: amino acids 341 (D) TOPOLOGY: linear 342 343 (ii) MOLECULE TYPE: protein 344 345 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4: 346 347 Met Ala Met Met Glu Val Gln Gly Gly Pro Ser Leu Gly Gln Thr Cys 348 1 5 10 15 349 350 Val Leu Ile Val Ile Phe Thr Val Leu Leu Gln Ser Leu Cys Val Ala 351 20 25 353 Val Thr Tyr Val Tyr Phe Thr Asn Glu Leu Lys Gln Met Gln Asp Lys 354 355 356 Tyr Ser Lys Ser Gly Ile Ala Cys Phe Leu Lys Glu Asp Asp Ser Tyr 357 358 359 Trp Asp Pro Asn Asp Glu Glu Ser Met Asn Ser Pro Cys Trp Gln Val 360 361 362 Lys Trp Gln Leu Arg Gln Leu Val Arg Lys Thr Pro Arg Met Lys Arg 363 364 365 Leu Trp Ala Ala Lys ** 359 360 361 362 366 366 366 366 367 368 368 369 360 366 | | | Ser | Phe | Phe | Gly | Ala | Phe | Leu | Val | Gly | A | | | 54 | σP | CO | | | | ر ما در | 1/4 |
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| 364 365 Leu Trp Ala Ala Lys * Castop codon was here 366 100 | | | Lys | Trp | Gln | Leu | Arg | Gln | Leu | Val | Arg | Lys | Thr | Pro | Arg | Met | Lys | Arg | | | | |
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| 366 100 | | | Leu | Trp | Ala | Ala | Lys | 不 | <u> </u> | <u> </u> | | - | • | | | | | | | | | |
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SEQUENCE VERIFICATION REPORT PATENT APPLICATION *US/08/548,368*

DATE: 02/08/96 TIME: 13:24:06

| Line | Error | Original Text |
|------|--|--|
| 27 | Wrong application Serial Number | (A) APPLICATION NUMBER: USto be assigned |
| 180 | Entered (281) and Calc. Seq. Length (282) differ | (A) LENGTH: 281 amino acids |
| 239 | Stop Codon at end of sequence removed - no error | |
| 339 | Entered (101) and Calc. Seq. Length (102) differ | (A) LENGTH: 101 amino acids |
| 365 | Stop Codon at end of sequence removed - no error | |

| | CRF crrors corrected by the STIC Systems Branch CRF Processing Date: 2896 Edited by: Verified by: Verified by: (STIC str |
|---|--|
| | |
| | Changed the margins in cases where the sequence text was "wrapped" down to the pext line. Edited a format error in the Current Application Data section, specifically: |
| | Edited a format error in the Current Application Data section, specifically: |
| | Edited the Current Application Data section with the actual current number. The number inputted by the applicant was the prior application data; or other |
| | Added the mandatory heading and subheadings for "Current Application Data". |
| | Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer. |
| | Changed the spelling of a mandatory field (the headings or subheadings), specifically: |
| | Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: |
| | Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: |
| | Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place. |
| | Inserted colons after headings/subheadings. Headings edited included: |
| | Deleted extra, invalid, headings used by an applicant, specifically: |
| | Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file page numbers throughout text; ☐ other invalid text, such as |
| | Inserted mandatory headings, specifically: |
| | Corrected an obvious error in the response, specifically: |
| | Edited identifiers where upper case is used but lower case is required, or vice versa. |
| | Corrected an error in the Number of Sequences field, specifically: |
| - | A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted. |
| | Deleted <i>ending</i> stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a Patentin bug). Sequences corrected: |
| | Other: Deleted Stap codan @end 06 sea, Z. |

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.